2 February 1977

MEMORANDUM FOR: General Counsel
Legislative Counsel
Inspector General
Audit Staff
D/DCI/NIO
Comptroller
A/DCI (Media)
Executive Secretary
EEO

25X1

FROM: [redacted]
Administrative Officer, DCI

SUBJECT: Zero-base Budgeting

1. The attached article printed in the January/February issue of Public Administration Review is a good summary of the zero-base approach to public budgeting as it is viewed by Peter Pyhrr, one of the original conceptualizers. Since the Government will be moving in this direction in our budget preparation and presentation requirement, it might be useful for those involved in your budget exercises to read it over for whatever value it has.

2. I feel the DCI Area is in good shape in the "decision unit" aspects with each office constituting a decision unit. We are perhaps a little tentative in our ability and techniques for measuring workload and performance and our ability to measure the impact (or to control) various levels of effort and their costs. Perhaps it would be useful to give some thought to how your office might respond to these requirements if they were imposed as in all likelihood they will be.

[redacted]

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As stated

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Each addressee w/att
1 - RB & Chrono
1 - AO/Finance

The Zero-Base Approach To Government Budgeting

Peter A. Pyhrr, *Alpha Wire Corporation*

This article on the zero-base approach to budgeting is presented as a first-person account by one deeply involved in the development of this approach, with the thought that the "several levels" addressed therein will prove interesting and informative, at a time when zero-base budgeting will presumably be moving toward center stage. As the deadline for publication approached – and arrived – Mr. Pyhrr was abroad, so that it was impossible to check all editorial matters with him. I hope nevertheless that the presentation faithfully sets forth the essentials.

—D.W.

Zero-base budgeting is an emerging process, which has been adopted by a variety of industrial organizations in many sectors of the economy, as well as state and local governments.

As it is generally practiced today, zero-base budgeting was developed at Texas Instruments Inc. during 1969. The process was first adopted in government by Governor Jimmy Carter of Georgia for the preparation of the fiscal 1973 budget, and the process is still being used today in Georgia. It would appear at this point that zero-base budgeting will be adopted in the federal government, sponsored by both the President and Congress. The Government Economy and Spending Reform Act of 1976 (S. 2925) was introduced by Senator Muskie, and co-sponsored by more than 50 per cent of the Senate when it was reported out of the Government Operations Committee. The bill required a congressional zero-base review and evaluation of every government authorization for programs and activities every five years, and requires the Director of OMB to develop a program for zero-base budgeting for all departments and agencies of the Executive Branch.

There are three key users of the zero-base analysis in government:

1. Legislative (Congress/state legislature/city council)
2. Executive (President/OMB, governors, mayor/city manager)
3. Agency (agency director, program and department managers).

The focus of each user is obviously different, with the legislature requiring more summarization and focusing on public priorities and objectives, the agencies requiring more detailed information and focusing on program implementation and efficiency, and the executive straddling the needs of legislature and agency. However, regardless of specific information needs and focus, the legislature, executive, and agencies must all address themselves to two basic questions:

1. Are the current activities efficient and effective?
2. Should current activities be eliminated or reduced to fund higher-priority new programs or to reduce the current budget?

These two questions are the focus of the zero-base budgeting process.

Peter A. Pyhrr is vice president, finance, and treasurer of Alpha Wire Corporation. Earlier he developed zero-base budgeting at Texas Instruments, and has been involved in installing zero-base budgeting both in industry and in gov-

The Zero-Base Approach

On December 2, 1969, at the Plaza Hotel in New York City, Arthur F. Burns, then counselor to the President of the United States, addressed the annual dinner meeting of the Tax Foundation on the "Control of Government Expenditures." In this speech, Dr. Burns identified the basic need for zero-base budgeting; but he also expressed his concern that such a process would be difficult if not impossible to implement:

> Customarily, the officials in charge of an established program have to justify only the increase which they seek above last year's appropriation. In other words, what they are already spending is usually accepted as necessary without examination. Substantial savings could undoubtedly be realized if [it were required that] every agency . . . make a case for its entire appropriation request each year, just as if its program or programs were entirely new. Such budgeting procedure may be difficult to achieve, partly because it will add heavily to the burdens of budget-making, and partly also because it will be resisted by those who fear that their pet programs would be jeopardized by a system that subjects every . . . activity to annual scrutiny of its costs and results.

Dr. Burns was advocating that government agencies re-evaluate all programs and present their requests for appropriation in such a fashion that all funds can be allocated on the basis of cost/benefit or some similar kind of evaluative analysis.

The fears of Dr. Burns that a zero-base approach "will add heavily to the burdens of budget-making" are unwarranted, as I view the matter. None of the organizations that I am familiar with that have implemented the approach have added additional time onto their calendar for the preparation of a zero-base budget (other than design and training prior to the budget preparation process which is a normal start-up requirement of any new process). To be sure, zero-base budgeting usually involves more managers and takes more management time than the traditional budget procedures. However, it must be taken into account that the zero-base approach includes objective setting, program evaluation, and operational decision making, as well as budget making, whereas traditional budgeting procedures often separate these management aspects. In the worst case, the traditional budget process is merely a way to obtain an appropriation with the operational decision making and operating budgets determined after the total appropriation has been obtained. If we added the total time of these additional management activities to the traditional budgeting process, then the time requirements of zero-base budgeting do not add to management's burdens. In fact, after the initial year's implementation, the zero-base approach can actually reduce management's burden as the zero-base thought process and methodology become ingrained into management's normal way of problem solving and decision making.

Zero-Base Budgeting Procedures

The zero-base approach requires each organization to evaluate and review all programs and activities (current as well as new) systematically; to review activities on a basis of output or performance as well as cost; to emphasize managerial decision making first, number-oriented budgets second; and to increase analysis. However, I should stress that zero-base is an approach, not a fixed procedure or set of forms to be applied uniformly from one organization to the next. The mechanics and management approach has differed significantly among the organizations that have adopted zero-base, and the process must be adapted to fit the specific needs of each user. In governmental jurisdictions, for example, certain expenditures may be fixed by law.

Although the specifics differ among organizations, there are four basic steps to the zero-base approach that must be addressed by each organization:

- Identify "decision units."
- Analyze each decision unit in a "decision package."
- Evaluate and rank all decision packages to develop the appropriations request.
- Prepare the detailed operating budgets reflecting those decision packages approved in the budget appropriation.

Defining Decision Units

Zero-base budgeting attempts to focus management's attention on evaluating activities and making decisions. Therefore, the "meaningful elements" of each organization must be defined so that they can be isolated for analysis and decision making. For the sake of terminology, we have termed these meaningful elements "decision units." The definition of decision units in most organizations is straightforward, and the decision units may correspond to those budget units defined by traditional budget procedures.

unit or cost center structure, the decision unit may correspond to that budget unit. In some cases, the budget unit manager may wish to identify separately different functions or operations within his budget unit if they are significant in size and require separate analysis. He may therefore identify several "decision units" for a budget unit. If an organization has a well-developed program structure, the decision unit may correspond to that lowest level of the program structure (program element, activity, function). Decision units may be defined at the sub-program level if there are separate organizational units within that program element. The resulting decision packages at the sub-program element level can then be grouped to evaluate the program element. In the same manner, decision packages for each program element (or sub-program element) can be grouped to evaluate each program.

The decision packages built around each decision unit are the building blocks of the budget and program analysis. These building blocks can be readily sorted either organizationally or programatically. For those organizations without a detailed program structure, the information and analysis developed by zero-base provides a readily usable data base from which a program structure can be developed.

Decision units can also be defined as major capital projects, special work assignments, or major projects. Each organization must determine for itself "what is meaningful." In practice, top management usually defines the organization or program level at which decision units must be defined, leaving it to the discretion of each manager to identify additional decision units if appropriate.

The Decision Package Concept

The "decision package" is the building block of the zero-base concept. It is a document that identifies and describes each decision unit in such a manner that management can (a) evaluate it and rank it against other decision units competing for funding and (b) decide whether to approve it or disapprove it.

The content and format of the decision package must provide management with the information it needs to evaluate each decision unit. This information might include:

- Purpose/objective
- Description of actions (What are we going to do, and how are we going to do it?)
- Costs and benefits
- Workload and performance measures
- Alternative means of accomplishing objectives
- Various levels of effort (What benefits do we get for various levels of funding?)

The key to developing decision packages is the formulation of meaningful alternatives. The steps that should be used in developing decision packages include:

1. Alternative methods of accomplishing the objective or performing the operation: Managers should identify and evaluate all meaningful alternatives and choose the alternative they consider best. If an alternative to the current method of doing business is chosen, the recommended way should be shown in the decision package with the current way shown as the alternative not recommended.
2. Different levels of effort of performing the operation: Once the best method of accomplishing the operation has been chosen from among the various alternative methods evaluated, a manager must identify alternative levels of effort and funding to perform that operation. Managers must establish a minimum level of effort, which must be below the current level of operation, and then identify additional levels or increments as separate decision packages. These incremental levels above the minimum might bring the operation up to its current level and to several multiples of the current level of effort.

The identification and evaluation of different levels of effort is probably the most difficult aspect of the zero-base analysis, yet it is one of the key elements of the process. If only one level of effort were analyzed (probably reflecting the funding level desired by each manager), top management would be forced to make a yes or no decision on the funding request, thus funding at the requested level, eliminating the program, making arbitrary reductions, or recycling the budget process if requests exceeded funding availability.

A decision package is defined as one incremental level in a decision unit. There may be several decision packages for each decision unit. It is these incremental levels that get ranked. By identifying a minimum level of effort, plus additional increments as separate decision packages, each manager thus presents several alternatives for top management decision making:

Elimination:

Eliminate the operation if no decision packages

are approved.

Reduced Level:

Reduce the level of funding if only the minimum level decision package is approved.

Current Level:

Maintain the same level of effort if the minimum level, plus the one or two incremental levels (bringing the operation from the minimum level to the current level of effort) are approved.

Note: The current level of effort refers only to the level of output or performance sometimes referred to as a "maintenance level." However, even at the current level of effort, managers may have changed their method of operation and made operating improvements, so that the current level of effort may be accomplished at a reduced cost.)

Increased Levels:

Increased levels of funding and performance if one or more increments above the current level is approved.

The minimum level of effort is the most difficult level to identify, since there is no magic number (i.e., 75 per cent of the current level) that would be meaningful to all operations. The minimum level must be identified by each manager for his/her operations. The minimum level must be below the current level of effort. The minimum level should attempt to identify "that critical level of effort, below which the operation would be discontinued because it loses its viability of effectiveness." There are several considerations which can aid managers in defining the minimum level of effort:

1. The minimum level may not completely achieve the total objective of the operation (even the additional levels of effort recommended may not completely achieve the objective because of realistic budget and/or achievement levels).
2. The minimum level should address itself to the most critical population being served or attack the most serious problem areas.
3. The minimum level may merely reduce the amount of service (or number of services) provided.
4. The minimum level may reflect operating improvements, organizational changes, or improvements in efficiency that result in cost reductions.
5. Combinations of 1 through 4.

By identifying the minimum level, each manager is not necessarily recommending that it be funded at the minimum level, but is merely identifying that alternative to top management. If a manager identifies several levels of effort, he is recommending that all levels be funded.

Example: Air Quality Laboratory – The following example of the Georgia Air Quality Laboratory (Air Quality Control) illustrates the type of analysis that each manager needs to make in order to prepare decision packages. The Air Quality Laboratory tests air samples collected by field engineers throughout Georgia. It identifies and evaluates pollutants by type and volume, then provides reports and analyses to the field engineers. The manager involved made the typical two-part analysis; first, identifying different ways of performing the function; and second, identifying the different levels of effort.

1. Different ways of performing the same function:
   a) Recommended decision package: Use a centralized laboratory in Atlanta to conduct all tests. Cost – $246,000. This expenditure would allow 75,000 tests and would determine the air quality for 90 per cent of the population (leaving unsampled only rural areas with little or no population problem).
   b) Alternatives not recommended:
      - Contract testing to Georgia Tech. Cost – $450,000. The $6 per test charged by the University exceeds the $246,000 cost for doing the same work in the Air Quality Laboratory, and the quality of the testing is equal.
      - Conduct all testing at regional locations. Cost – $590,000 the first year due to set-up cost and purchase of duplicate equipment, with a $425,000 running rate in subsequent years. Many labs would be staffed at a minimum level, with less than full utilization of people and equipment.
      - Conduct tests in Central Laboratory for special pollutants only, which require special qualifications for people and equipment, and conduct routine tests in regional centers. Cost – $400,000. This higher cost is created because regional centers have less than full workloads for people and equipment.

The recommended way of performing this laboratory function was chosen because the alternatives did not offer any additional advantages and were more expensive. The manager therefore recommended the level of 75,000 tests, at $246,000. Each manager has complete freedom to recommend other new ways of the current way

of doing business.

Once the manager had defined the basic alternatives and selected the one he considered best, he completed his analysis by describing different levels of effort for his chosen alternative. For the recommended Central Laboratory in Atlanta, the Air Quality Laboratory manager described and evaluated decision packages that called for different levels of effort for air quality tests. In this case, the manager believed that he could reduce the level of testing to 37,300 samples and still satisfy the minimum requirements of the field engineers who used his services. Therefore, he completed his analysis by identifying the minimum level and additional levels of effort for his recommended way of performing the testing as follows:

2. Different levels of effort of performing the function:
   a) Air Quality Laboratory (1 of 3), cost – $140,000. Minimum package: Test 37,300 samples, determining air quality for only five urban areas with the worse pollution (covering 70 per cent of the population).
   b) Air Quality Laboratory (2 of 3), cost – $61,000 (Levels 1 + 2 = $201,000). Test 17,700 additional samples (totaling 55,000, which is the current level), determining air quality for five additional problem urban areas plus eight counties chosen on the basis of worst pollution (covering 80 per cent of the population).
   c) Air Quality Laboratory (3 of 3), cost – $45,000 (Levels 1 + 2 + 3 = $246,000). Test 20,000 additional samples (totaling 75,000), determining air quality for 90 per cent of the population, and leaving only rural areas with little or no pollution problems unsampled.

The Air Quality Laboratory manager thus prepared three decision packages (levels 1 of 3, 2 of 3, and 3 of 3).

Development of different levels as separate decision packages indicates that the functional manager thinks all levels deserve serious consideration within realistic funding expectations. He identifies three possible levels and leaves it to higher management to make tradeoffs among functions and level of effort within each function.

An Example from City Operations – The decision package analysis can be applied to any federal, state, or local operation or program. The questions raised by the decision package and the analysis required, are similar even for extremely diverse programs and operations.

To demonstrate this point, I have taken an example of residential refuse collection from the City of Garland, Texas. Garland was the first city to my knowledge to have successfully implemented zero-base budgeting throughout all city departments. The residential refuse example clearly illustrates the zero-base analysis, and identifies the alternatives and funding decisions faced by city managers.

"Residential Refuse Collection" is the city operation responsible for collecting and transporting all residential solid waste for disposal. The manager of this function made the typical two-part analysis: first, identifying alternative means for accomplishing this activity; and second, identifying different levels of effort.

1. Different ways of performing the same function:
   a) Recommended means: City provides the collection service, requiring the use of plastic sacks for all refuse. Plastic sacks are purchased by each resident. Refuse trains are used for heavily populated areas. Front loading refuse trucks are used to empty the refuse trains on the route to transport the refuse to the landfill. Other types of trucks are used for the less-populated areas and country runs. Cost – $790,300.
   b) Alternatives not recommended:
      - Collection without the use of plastic sacks: Additional man required on each crew if garbage cans are used in place of plastic sacks. Added cost of $96,000.
      - Collection of all refuse by the trains. Use of other types of equipment (shu-packs and barrel trucks) are more efficient in less densely populated areas. Purchase of three additional refuse trains and two front loaders would be required, plus eight additional personnel, for an additional cost of $150,000.
      - Contract city refuse collection to a private contractor: Cost $1,108,800 for twice-a-week collection; $900,000 for once-a-week collection.

The recommended means was chosen because the alternatives did not offer any additional advantages and were more expensive.

The residential refuse collection manager completed his zero-base analysis by identifying different levels of effort for performing the function. In

this case, the manager believed he could reduce the level of refuse collection from twice a week to once a week and still satisfy the minimum sanitary requirements. Therefore, he completed his analysis by identifying the minimum level and additional levels of effort for his recommended means of refuse collection as follows:

2. Different levels of effort for performing the function:
   a) Residential Refuse Collection (1 of 3): cost – $607,000 minimum level: Collect residential refuse once per week; brush pick up on Thursday and Friday.
   b) Residential Refuse Collection (2 of 3): cost – $142,800 (Levels 1 + 2 = $750,300). Add one additional collection per week, so that refuse is collected twice per week.
   c) Residential Refuse Collection (3 of 3): cost – $40,500 (Levels 1 + 2 + 3 = $790,300). Collection of brush and white goods an additional two days per week, so that brush is collected every collection day (Mon., Tues., Thurs., and Fri.).

The manager thus prepared three decision packages.

It should be pointed out that there is no magic number of funding levels, but two to five levels are most common. It is also common in many cases to have a great deal of back-up information and analysis, which the decision package itself displays in summary form. In the residential refuse case, there was extensive information and analysis regarding different types of equipment, detailed city maps with an analysis of different route alternatives, and an evaluation of different types of equipment for different routes. The city manager in this case reviewed the detailed analysis, and there were several revisions before the recommendations were put into final form.

The Ranking Process

The ranking process provides management with a technique to allocate its limited resources by making management concentrate on these questions: "How much should we spend?" and "Where should we spend it?" Management constructs its answer to these questions by listing all the decision packages identified in order of decreasing benefit to the organization. It then identifies the benefits to be gained at each level of expenditure and studies the consequences of not approving additional decision packages ranked below that expenditure level.

The ranking process establishes priorities among the incremental levels of each decision unit (i.e., decision packages). The rankings therefore display a marginal analysis. If the manager of the Air Quality Program in Georgia developed decision packages for the Air Quality Laboratory, Reviews and Permits, Source Evaluation, Registration, and Research, his ranking might appear as follows:

Rank	Decision Package	Incremental Cost	Cumulative Program Cost
1	Reviews and Permits (1 of 2)	$ 116,000	$ 116,000
2	Source Evaluation (1 of 4)	103,000	219,000
3	Air Quality Laboratory (1 of 3)	140,000	359,000
4	Registration (1 of 3)	273,000	632,000
5	Source Evaluation (2 of 4)	53,000	685,000
6	Air Quality Laboratory (2 of 3)	61,000	746,000
7	Source Evaluation (3 of 4)	45,000	791,000
8	Air Quality Laboratory (3 of 3)	45,000	836,000
9	Reviews and Permits (2 of 2)	50,000	886,000
10	Research (1 of 2)	85,000	971,000

From a practical standpoint, the rankings of the minimum levels for Reviews and Permits, Source Evaluation, Air Quality Laboratory, and Registration may be requirements, so that the absolute ranking of those decision packages (ranked 1-4) are not meaningful. However, the priority of the packages with a lower ranking become significant since management will ultimately make a decision on which packages will be funded. If packages one through eight are funded, management would approve a budget for Air Quality Control of $246,000. Management would have funded all three levels of the Air Quality Laboratory, thus increasing that budget; funded only the minimum level of Registration, thus decreasing that budget; and not funded any Research, thus eliminating that function. Discretionary programs may have the minimum level ranked at the medium or low priority, while increased levels for other programs may be given a high priority. Therefore, the rankings can produce dramatic shifts in resource allocations.

The key to an effective review and ranking process lies in focusing top management's attention on key policy issues and discretionary expenditures. In a small organization such as the City of Garland, Texas, all decision packages were reviewed by the city manager. The city manager took the lower priority packages from each organization that he thought were somewhat discretionary and concentrated his ranking efforts on developing a consolidated ranking across all city organizations for those discretionary decision

In large organizations, top management may be forced to rely primarily on management summaries in lieu of concentrating on the decision packages. In the State of Georgia, decision packages are ranked to the program level in each agency. The Budget Office prepares executive summaries based on the decision packages and program rankings submitted by each agency for the governor's review.

It is also possible to prepare "activity decision packages" (an activity being the lowest element in the program structure). Activity decision packages would then be ranked for each program. "Program decision packages" could then be prepared based on the activity decision packages and the ranking at the program level. The program decision packages could have a format and content similar to the activity decision package, but provide a summary and program analysis for use by top agency management and the executive and legislative review process.

Regardless of organizational size and form of top management review, the decision packages and rankings form the backbone of analysis and decision making. The nature of each review process must be specifically designed to fit the size and personality of each organization.

Preparing the Detailed Operating Budget

The budget or appropriation requests prepared by each organization are usually subject to some form of legislative review and modification. If the legislative appropriation differs markedly from the budget request, many organizations that have used traditional budgeting techniques are forced to recycle their entire budgeting effort to determine where the reductions should be made. Under the zero-base budgeting approach, the decision packages and rankings determine specifically the actions required to achieve any budget reductions. If the legislature defines reductions in specific program areas, we can readily identify the corresponding decision packages and reduce the appropriate program and organizational budgets. If the legislature identifies an arbitrary reduction (e.g., reduce budget five per cent), each agency can use its rankings and eliminate those decision packages that it considers to be the lowest priority.

In the final analysis, each organization will have a number of approved decision packages which define the budget of each program and organizational unit. The decision packages also define the specific [illegible] from each program and organizational unit. This information can provide the basis for both budget and operational reviews during the year.

Practices and Problems

The term "zero-base" has many different connotations. To those who have merely heard the term, it tends to mean "the process of throwing everything out and starting all over again from scratch," or "reinventing the wheel." These connotations are incorrect and imply an effort of impractical magnitude and chaos.

In a more practical vein, "zero-base" means the evaluation of all programs. The evaluation of alternatives and program performance may occasionally lead us to completely rethink and redirect a program, in which case we do "throw everything out and start all over again." However, in the great majority of cases, programs will continue, incorporating modifications and improvement. For the majority of programs, we will concentrate our analysis on evaluating program efficiency and effectiveness and the evaluation and prioritization of different levels of effort.

This pragmatic approach offers us an extremely flexible tool. Managers can "reinvent the wheel" in those situations where preliminary investigation indicates the need and potential benefits of such an approach, and can concentrate their effort on improving programs that appear to be headed in the right direction.

The zero-base approach has led to major reallocation of resources. For example:

- The State of Georgia experienced a $57 million (5 per cent of general funds) revenue shortfall. Governor Jimmy Carter used the zero-base analysis to reduce budgets across 65 agencies, with reductions ranging from 1 per cent to 15 per cent. Program reductions within each agency ranged from no change to elimination.

In a political environment, the expectations for major shifts in resource allocations must be qualified. The major reallocations of resources will normally take place within major agencies such as shifting administrative and maintenance cost savings into direct program delivery. However, it is unrealistic to expect a 20 per cent decrease in the Department of Education to fund a 40 per cent increase in Mental Health. The political realities do not usually allow such shifts. It is also unrealistic [illegible] due to zero-

base budgeting. When cost reductions are achieved, the overriding political tendency is to plow the money back into increased services in other programs.

If we can't realistically expect major funding reallocations among major agencies, and if we can't expect a tax decrease, then why do zero-base budgeting? I believe that there are four overriding reasons that make the zero-base approach worthwhile:

1. Low priority programs can be eliminated or reduced. How the savings are used is a completely separate question.
2. Program effectiveness can be dramatically improved. Such improvements may or may not have a budgetary impact.
3. High impact programs can obtain increased funding by shifting resources within an agency, whereas the increased funding might not have been made available had the agency merely requested an increase in total funding.
4. Tax increases can be retarded. The first three benefits can significantly reduce the necessity for increased taxes by allowing agencies to do a more effective job with existing revenues. For the hard-nosed executive or legislature, budgets can be reduced with a minimum of reduced services.

The zero-base approach is not without its problems. The major problem is the threat that many bureaucrats feel towards a process which evaluates the effectiveness of their programs. The zero-base process also requires a great deal of effective administration, communications, and training of managers who will be involved in the analysis. Managers may also have problems in identifying appropriate decision units, developing adequate data to produce an effective analysis, determining the minimum level of effort, ranking dissimilar programs, and handling large volumes of packages. For many programs, workload and performance measures may be lacking or the cause/effect and program impact may not be well defined so that the analysis will be less than perfect. Therefore, zero-base budgeting should be looked upon as a longer-term management development process rather than a one year cure-all.

If done properly, the zero-base approach is not subject to the gamesmanship one might anticipate. The traditional budget approach offers maximum opportunity for gamesmanship because current operations are seldom evaluated and many discreet decisions are never explicitly identified and get "buried in the numbers." However, the zero-base approach removes the umbrella covering current operations and requires managers to clearly identify operating decisions. In zero-base, most obvious forms of gamesmanship would be to avoid identifying reasonable alternatives, to include the pet projects within the minimum level package, and to rank high priority programs low in the ranking in order to obtain additional funding. If the decision packages are "formatted" adequately to display the alternatives considered, workload and performance data, descriptions of actions, and enough cost data so that discretionary items cannot be built into the cost estimate, it becomes very obvious when such gamesmanship is attempted. Also, because the entire ranking of decision packages must be displayed, it is very easy to challenge a high priority item that received a low ranking or a low priority item which received a high ranking.

The problems in implementing zero-base budgeting are not to be minimized. The specific needs, problems, and capabilities of each organization must be considered in adapting the zero-base approach. Although most of the basic concepts of the zero-base approach have been maintained, the specifics of administration, formats, and procedures have been different for each organization that has adopted the approach. Zero-base can be applied on an intensive basis throughout all levels of an organization, applied only to selected programs, or applied only at major program levels rather than involving all operating managers. The strategy of implementing the zero-base approach must be developed for each organization, depending on its specific needs and capabilities. It should be considered a management and budgetary improvement effort that may require several years to reach full utilization and effectiveness.